Pumping System Assessment Tool (PSAT) Executive Summary

Overview: The Pumping System Assessment Tool (PSAT) is a free software tool to help industrial users assess the efficiency of pumping system operations. It uses field measurements to identify and quantify energy-saving opportunities in both dollars and electrical energy savings. Although PSAT does not tell you how to improve systems, it does allow users to identify the pumping systems most in need of further investigation and provides preliminary energy savings for an optimized pump system.

Data Collection Requirements: Prior to using the tool, general pump, system elevations, fluid, and motor properties should be collected. In addition, flow, pressure and power measurements are needed. As an alternative to collecting power, electrical parameters such as motor voltage and full-load amps can be used to estimate power. Knowledge of pump and motor properties and measurement methods are required. Knowledge of how to set-up operate measurement instrumentation such as flow, pressure, and electrical meters may also be needed.

Qualifications: A basic understanding of pump systems including pump and motor operating conditions, system curves, and measurement methods are required to operate this tool. Preparation for the use of the tool can be provided in the DOE end-user trainings. Please see the DOE ITP website for more information.

Usage of the tool: This software tool requires only spot measurements to estimate savings. Multiple output screen summaries can be saved for different sets of measurements; however, continuous measurements are not required to operate this tool.

Ease of Use/Software Compatibility: The tool is downloaded as a zip file, which is saved on the user's computer. The zip file contains installation instructions, which walk the user through the download process. Only basic knowledge of computers is required to operate the tool. If additional clarification is needed, the user can choose to have an information box pop up when their mouse is placed over entry boxes, buttons, and outputs.

The basis for the tool is LabView 6.0 which will operate on the following PC's:

- 64-bit computer running Windows 2000, Windows Vista, Windows XP, and Windows 7
- Microsoft Office Suite 2007 and 2010

If an earlier version is already installed, you run can both versions simultaneously, if desired.

A common issue that users have encountered occurs during the installation process. When downloading PSAT, the user was asked to enter in Disk #1. If this problem occurs, confirm WinZip is installed on your computer and if it is not, download the program. If WinZip is installed on the computer, the user is encouraged to fully extract the zip file.

Product roll-out roadmap: PSAT 2008 replaces earlier versions of PSAT. If you are currently using PSAT 2004, the new tool contains a utility to update log and summary files to PSAT 2008. The next update for PSAT is scheduled to start in March 2012.